CLAIMS

1. A method for optical measuring systems, comprising a sensor element (6) connected to a measuring and control unit (10) via an optical connection (3) and being adapted for providing a signal corresponding to a measurement of a physical parameter (p) influencing the sensor element (6), said method comprising

generation of a measuring signal that is brought to come in towards the sensor element (6), and

detection of said measuring signal (B) in the measuring and control unit (10), after influencing the measuring signal in the sensor element (6),

characterised by the method further comprising:

partial reflection of the measuring signal at a point along the optical connection (3), located at a predetermined distance from the sensor element (6),

detection of the intensity of the signal (A) corresponding to said partially reflected measuring signal, and

determination of a measurement of said parameter (p) based upon the intensity of the partially reflected signal (A) and the intensity of the measuring signal (B).

2. The method according to claim 1, characterised by comprising:

determination of a value corresponding to the quotient of the intensity (I_A) of said reflected signal (A) and the intensity (I_B) of said measuring signal (B), and

determination of a measurement of said parameter (p) based upon said quotient (I_A/I_B).

3. The method according to claim 1, characterised by comprising:

determination of a value corresponding to the difference between the intensity (I_A) of said reflected signal (A) and the intensity (I_B) of said measuring signal (B), and

determination of a measurement of said parameter (p) based upon said difference (I_A-I_B).

4. A method according to any one of the preceding claims, characterised by said measuring signal (B) being a light pulse.

5. A method according to any one of the preceding claims, characterised by the feeding of the measuring signal into the sensor element (6) causing optical interference in a cavity (6a) of the sensor element (6).

6. A method according to any one of the preceding claims, characterised by being used for measuring pressure (p), said sensor element (6) defining a membrane (6b), acted upon by the pressure (p) surrounding the sensor element (6).

7. A method according to any one of the preceding claims, characterised by being used for measuring the acceleration or the temperature of said sensor element (6).

8. A method for optical measuring systems, comprising a sensor element (6) connected to a measuring and control unit (10) via an optical connection (3) and being adapted for providing a signal corresponding to a measurement of a physical parameter (p) influencing the sensor element (6), said method comprising

generation of a signal which is brought to come in towards the sensor element (6), and

detection of said signal in said measuring and control unit (10) after influencing the measuring signal in said sensor element (6),

characterised by the method further comprising determination of a measurement of the length of said optical connection (3), based upon a measured period of time elapsing from the generation of said signal until the detection of said signal.

9. The method according to claim 8, characterised by said length determination being used for identification of the current type of sensor element (6), said length of said optical connection (3) being selected to correspond to a specific type of sensor element (6).

10. A device for optical measuring systems, comprising a sensor element (6) connected to a measuring and control unit (10) via an optical connection (3) and being adapted for providing a signal corresponding to a measurement of a physical parameter (p) influencing the sensor element (6), said device further comprising a light source (2) functioning to generate a measuring signal brought to come in towards the sensor element (6), and a detector (7) for detecting the intensity of the measuring signal (B) in the measuring and control unit (10), after influencing the measuring signal in the sensor element (6),

characterised by comprising a semi-reflecting device (12) for partial reflection of the measuring signal at a point along the optical connection (3) at a predetermined distance from the sensor element (6), said detector (7) being arranged for detection of the intensity of the signal (A) corresponding to said partially reflected measuring signal, and by comprising an evaluation unit (9) for determining a measurement of said parameter (p), based upon the intensity of the partially reflected signal (A) and the intensity of the measuring signal (B).

11. The device according to claim 10, characterised by said sensor element (6) comprising a cavity (6a), shaped so as to create optical interference when feeding said measuring signal into the cavity (6a).

12. The device according to claim 9, characterised by said cavity (6a) being obtained through building up molecular silicone and/or silicone dioxide layers, and an etching procedure.

13. The device according to claim 12, characterised by said cavity (6a) being obtained through utilising a bonding procedure.